

# WorkNC V22

The CAD/CAM solution for 2 to 5 axis machining

WorkNC Version 22 sees the advent of new finishing toolpaths along with a host of improvements to existing toolpaths. Morphing and spiral transition options, along with improved toolpath point distribution management, all contribute to ensure optimal surface finish quality as well as reduced cycle times.

## WorkNC V22 optimizes management of the production environment

thanks to the creation of a Machine Context which groups together all the relevant machine configuration elements required by the different modules within WorkNC such as collision detection etc... Several Machine Contexts can be used in the same Workzone.

## Thanks to WorkNC V22, machining has never been easier!

Four new trade oriented toolpaths are now available for machining walls and planar surfaces on die stamping tools. The new Tangent to Curve toolpath has shown to be the ideal solution for machining specific features on 2D parts by direct selection of vertical surfaces or by automatic wall detection following planar surface selection.

## New V22 3 Axis Toolpaths

Improved roughing strategies allow the use of conic cutters offering machining trajectories which are closer to the final form of the part and guarantee maximum tool service life. New options allow optimization of initial roughing passes in order to protect cutters and the

optimal machining direction can be determined automatically by WorkNC.

3D Finishing and ISO Finishing are two newly developed toolpaths. A morphing strategy, applicable to both toolpaths, ensures fluid trajectories thanks to spiral transitions which eliminate wasteful stepover movements and retracts. ISO surface parameters offer optimal machining of 3D surfaces and ensure a high quality surface finish.

## Machine Context

Direct selection of surfaces at the bottom of walls

Automatic detection of walls to machine

3D & ISO finishing

Morphing strategy & ISO surface parameters

Spiral transitions

Features machining

Automatic hole detection

Unified dialog box

Reduced machining cycle times

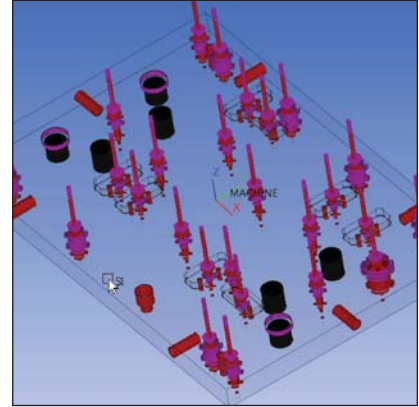
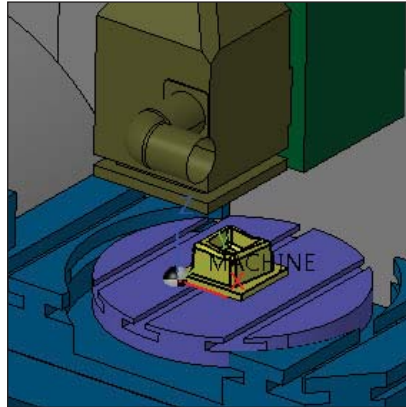
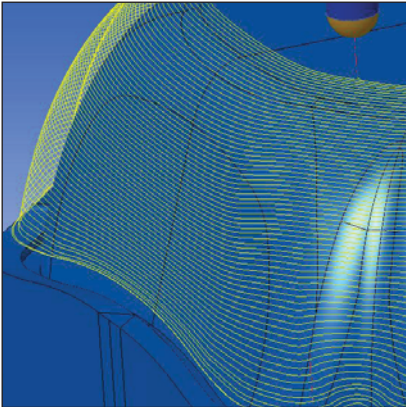
Optimized toolpath points distribution

Translation, rotation and symmetry of a toolpath for multiple instances

Graphic illustration zones



The most widely used WorkNC V22 finishing toolpaths also benefit from new features such as spiral transitions which ensure a continuous trajectory which maintains a permanent contact with the surface and offers perfect surface finish.



#### Consolidated User Interface

Dialog boxes and toolpath parameter menus have been revised to offer improved ergonomics and give immediate access to related parameters.

#### Die Stamp Machining

Four new toolpaths have been introduced for machining walls and planar surfaces on die stamp tooling parts - Wall and Flat Surface Roughing and Finishing, Wall Plunge Machining, Chamfering and Tangent to Curve toolpaths with a wide range of options adapted to different types of parts.

These toolpaths have a wide range of options and incorporate trade expertise to ensure simple programming and rapid machining of die stamp tools:

- Options for toolpath optimization and determining the most efficient trajectories.
- Morphing options to guarantee a continuous trajectory where the cutter remains in permanent contact with the machined surfaces.

#### Features Machining

WorkNC V22 offers a very comprehensive 'Features Machining' module in which complex stack features can continually enrich a knowledge base using self-learning strategies. In the same manner as for automatic feature machining, this new function is associated with automatic hole detection whatever the type of 3D model (solid, surface or hybrid).

- Stack machining by self-learning.
- Interactive creation of rules to categorize and machine complex features.
- Automatic detection of complex features using customized rules.
- Creation by self-learning of complex features.
- For each complex feature, one or several strategies can be associated.

#### New Simultaneous 5 axis Module

The 12 toolpaths which existed in previous versions have been replaced by 6 new toolpaths which are much more versatile and less specialized.

They offer a wide range of options which can adapt strategies to respond to different situations (5 axis Rolling, Profiling, Curve Machining, etc...).

5 axis toolpath programming ergonomics have been completely revised to simplify toolpath preparations. This has been achieved thanks to a unified dialog box for greater conviviality and simplicity.

Two graphical aid zones have been added to assist the user in his choice of options for a given toolpath; these contain clear, informative illustrations concerning selected options or parameters.

#### Toolpath Transformation

Toolpath point transformation enables the translation, rotation and symmetry of a toolpath to create a pattern repeat of a model or selected surfaces. This dramatically reduces calculation time where multiple instances are required, and ensures machining uniformity for consistency of manufacture.

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